

DESCRIPTION OF A NEW SPECIES OF *TRICHOGRAMMA*  
(HYMENOPTERA: TRICHOGRAMMATIDAE) FROM NEW YORK

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*Abstract.*—*Trichogramma julianoi*, a new species from New York, is described and illustrated. Its distribution and host range are given, and comparisons are made with closely related species.

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The following description of a new species of *Trichogramma* is provided at the request of Steven A. Juliano, Department of Biology, Pennsylvania State University, University Park. The species was one of several *Trichogramma* included in his graduate research at Cornell University, Ithaca, New York, during 1978-79. The description is based on dry and alcohol-preserved specimens which are mounted in Hoyers solution on glass slides.

*Trichogramma julianoi* Platner and Oatman, NEW SPECIES

Fig. 1

Adult body fuscous with front and middle legs, trochanter, tibia, and tarsus of back leg, and frontovertex of head lighter in color. Female slightly lighter in color than male.

Holotype male.—Antenna with flagellum 0.16 as wide as long ( $0.030 \times 0.184$  mm) and 1.13 as long as hindtibia (0.163 mm); flagellar setae 45 in number with longest seta (0.101 mm) 3.39 as long as maximum width of flagellum (0.030 mm). Forewing with 28 setae between 4th and 5th vein tracts; longest seta (0.041 mm) on postapical margin 0.16 as long as maximum width of wing (0.265 mm). Genital capsule 0.35 as wide as long ( $0.041 \times 0.120$  mm); DEG (0.117 mm long), CS (0.115 mm long), and MVP (0.106 mm long) 0.98, 0.96, and 0.89 length of genital capsule, respectively. Aedeagus (0.122 mm long) 0.75 length of hindtibia and 1.02 length of genital capsule.

Male.—Antenna (Fig. 1C) with flagellum relatively long and curved at basal  $\frac{1}{2}$ ,  $0.17 \pm 0.01$  (0.15-0.22) (N = 15) as wide as long, and  $1.12 \pm 0.01$  (0.96-1.19) (N = 15) as long as hindtibia; flagellar setae relatively long, ta-

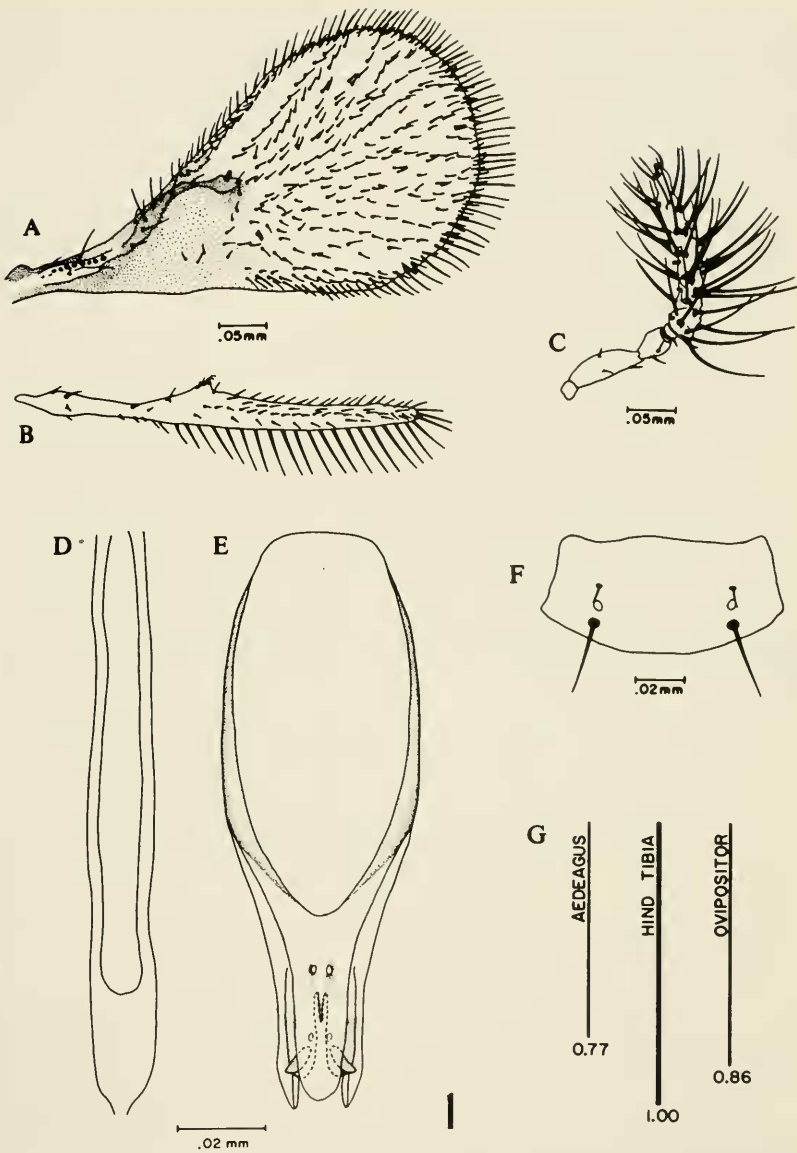


Fig. 1. *Trichogramma julianoi*. A, Forewing. B, Hindwing. C, Male antenna. D, Aedeagus. E, Male genital capsule. F, Mesoscutellum. G, Ratio of aedeagus and ovipositor to hindtibia of male and female, respectively.

pering gradually from base,  $42.6 \pm 1.63$  (30-49) (N = 14) in number, length of longest seta  $3.40 \pm 0.08$  (2.93-4.00) (N = 15) as long as maximum width of flagellum.

Forewing (Fig. 1A) with vein tracts relatively well defined, setae between tracts moderate in number, area between 4th and 5th tracts (i.e., the 2 tracts posterior to  $RS_2$ ) with  $20.5 \pm 1.70$  (9–36) ( $N = 15$ ) setae; longest seta on postapical margin  $0.18 \pm 0.01$  (0.16–0.22) ( $N = 15$ ) as long as maximum width of wing.

Hindwing (Fig. 1B) with anterior and posterior vein tracts equally as prominent as middle tract, component setae equal in size, anterior tract extending just short of wing tip with posterior tract extending to wing tip.

Mesoscutellum (Fig. 1F) with anterior pair of setae fine, short, ca.  $\frac{1}{5}$  length of posterior setae.

Genital capsule (Fig. 1E)  $0.33 \pm 0.01$  (0.29–0.36) ( $N = 15$ ) as wide as long; dorsal expansion of gonobase (DEG) moderately narrowed with blunt tip apically, sides only slightly concave without basal constriction, entire structure heavily sclerotized; DEG extending slightly beyond chelate structure (CS) and extending  $0.98 \pm 0.01$  (0.93–1.00) ( $N = 15$ ) length of genital capsule; CS extending  $0.95 \pm 0.003$  (0.93–0.98) ( $N = 15$ ) length of genital capsule; median ventral projection (MVP) narrow and sharply pointed, well below CS and DEG, extending only  $0.86 \pm 0.004$  (0.84–0.89) ( $N = 15$ ) length of genital capsule. Aedeagus (Fig. 1D)  $0.77 \pm 0.01$  (0.73–0.84) ( $N = 15$ ) length of hindtibia (Fig. 1G) and  $1.03 \pm 0.01$  (0.98–1.07) ( $N = 15$ ) length of genital capsule; apodemes comprising ca.  $\frac{4}{5}$  length of aedeagus.

Female.—Ovipositor  $0.86 \pm 0.02$  (0.79–0.95) ( $N = 9$ ) length of hindtibia (Fig. 1G).

Type information.—Holotype ♂ reared from a *Sepedon fuscipennis* Loew egg (Diptera: Sciomyzidae) collected 29 May 1978 by Steven A. Juliano from Ithaca, Tompkins County, New York. Allotype ♀, same data as holotype. The holotype and allotype are deposited in the collection of the U.S. National Museum of Natural History, Washington, D.C. (USNM type no. 76665).

Geographical distribution.—Presently known only from the area in and near Ithaca, New York.

Material examined.—*New York*: Ithaca (type-locality, see above): Lansing, ex. *Sepedon fuscipennis* eggs on vegetation, 20 August 1978; Oxbow Swamp, Newfield, ex. *S. fuscipennis* eggs on vegetation, 10 August 1978. Paratypes are not designated because there is no way of knowing whether or not the specimens are siblings from the same female. We prefer to designate paratypes only when we have such material.

Remarks.—This species is readily separated from other known species of *Trichogramma* by the apodemes of the aedeagus which are longer than those in any other known species of *Trichogramma*. *Trichogramma aurosum* Sugonyaev and Sorokina, a Russian species, is closest in this respect (Sugonyaev and Sorokina, 1976). However, *T. aurosum* differs from *T.*

*julianoi* by having shorter setae on the male antenna, being slightly less than twice the width of the flagellum, and by the notched base of the DEG.

The male genital capsule in *Trichogramma julianoi* is most comparable to *Trichogramma achaeae* Nagaraja and Nagarkatti, except for the obsolescence of the MVP in the latter species (Nagaraja and Nagarkatti, 1969).

The hindwing of *Trichogramma julianoi* has three complete vein tracts which are present in several species of *Trichogramma*, including *Trichogramma japonicum* Ashmead and *Trichogramma brevicapillum* Pinto and Platner (Nagarkatti and Nagaraja, 1971; Pinto et al., 1978).

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